

**METHOD OF FORMING SEMICONDUCTOR DEVICES USING AN ETCH  
STOP LAYER**

Abstract of the disclosure

5       Methods of forming a semiconductor device are provided by forming a gate pattern that includes a gate electrode on a substrate. Lightly doped impurity diffusion layers are formed in the substrate at both sides of the gate pattern. Spacers are formed on sidewalls of the gate pattern. The spacers having a bottom width. Impurity ions are implanted using the gate pattern and the spacer as a mask to form a heavily doped 10 impurity diffusion layer in the substrate. The spacers are removed. A conformal etch stop layer is formed on the gate pattern and the substrate. The etch stop layer is formed to a thickness of at least the bottom width of the spacers.